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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/077,207 05/26/98 INQUE

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EXAMINER

MM91/0830

OLIFF & BERRIDGE  
PO BOX 19928  
ALEXANDRIA VA 22320

PRENTY, M

ART UNIT

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
**09/077,207**

Applicant(s)  
**INOUE et al.**

Examiner  
**Prenty**

Art Unit  
**2822**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on Jul 5, 2001

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 25-46 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 25-46 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_

20) ☐ Other:

This Office Action is in response to the amendment filed July 5, 2001.

The cancellation of previously pending claims 1-4, 7 and 9-24 in favor of newly submitted, problematic claims 25-46 has set back, rather than advanced, prosecution.

The only patentable subject matter in this application, if any, is that recited in the August 18, 2000 version of claims 4, 10-13 and 18-21. The examiner recommends that the applicant cancel problematic pending claims 25-46, and rewrite the August 18, 2000 version of canceled dependent claims 4, 10-13 and 18-21 in independent form.

Claims 25, 27-43, 45 and 46 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the specification does not describe a gate electrode comprising an extension extending outwardly above the channel region, as recited in independent claim 25. Rather, the specification describes a gate electrode comprising extensions extending outwardly above the source-drain regions. See the Figure 2 disclosure, for example, and note that gate 15 comprises extensions 152 extending outwardly above source/drain regions 12, not above channel region 17. Claims 27-43 depend on independent claim 25 and are thus similarly rejected. Claim 27, as it depends on independent claim 25, is further rejected because the specification does not describe a gate electrode comprising extensions extending outwardly above the source-drain regions and further comprising extensions extending outwardly from both ends of the gate electrode. Claim 27, as it depends on independent claim 26, is further rejected because the specification does not describe a transistor comprising a channel region with an outwardly extending extension and a gate electrode comprising extensions

extending outwardly from both ends of the gate electrode. Claim 28, as it depends on independent claim 25, is further rejected because the specification does not describe a gate electrode comprising extensions extending outwardly above the source-drain regions and further comprising an extension extending outwardly from at least one end of the gate electrode. Claim 28, as it depend on independent claim 26, is further rejected because the specification does not describe a transistor comprising a channel region with an outwardly extending extension and a gate electrode comprising an extension extending outwardly from at least one end of the gate electrode. Claim 29, as it depends on independent claim 25, is further rejected because the specification does not describe a gate electrode comprising extensions extending outwardly above the source-drain regions, wherein the gate wiring layer is connected to the gate electrode extensions extending outwardly above the source-drain regions by a plurality of contact holes. Claim 32, as it depends on independent claim 25, is further rejected because the specification does not describe a transistor comprising a gate electrode with extensions extending outwardly above the source-drain regions and a channel region with an outwardly extending extension. Claim 37, as it depends on independent claim 25, is further rejected because the specification does not describe a gate electrode comprising extensions extending outwardly above the source-drain regions, wherein the extensions extend in a direction substantially perpendicular to the (channel's) longitudinal direction. Claim 39, as it depends on independent claim 25, is further rejected because the specification does not describe a gate electrode comprising extensions extending outwardly above the source-drain regions, wherein the extensions extend in a direction substantially perpendicular to the (channel's) longitudinal direction. Claim 43, as it depends on independent claim 25 is further

rejected because the specification does not describe a gate electrode comprising extensions extending outwardly above the source-drain regions, wherein the extensions extend in a direction substantially perpendicular to the (channel's) longitudinal direction. With respect to claim 45, first, the specification does not describe a gate electrode comprising an extension extending outwardly above the channel region. Rather, the specification describes a gate electrode comprising extensions extending outwardly above the source-drain regions. See the Figure 2 disclosure, for example, and note that gate 15 comprises extensions 152 extending outwardly above source/drain regions 12, not above channel region 17. Furthermore, the specification apparently doesn't describe a transistor comprising claim 45's two extensions in any event. With respect to dependent claim 46, the specification apparently doesn't describe a transistor comprising claim 46's two extensions.

Claims 25-46 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claim 25 is unclear. Specifically, claim 25's "an extension of the gate electrode extending outwardly provided above the channel region being formed" is non-idiomatic and unclear. Such should apparently read, if only from a 35 U.S.C. §112, second paragraph, perspective, "an extension of the gate electrode extending outwardly above the channel region" (although such is not described in the specification in any event, as explained above). Claims 27-43 depend on independent claim 25 and are thus similarly unclear. Independent claim 26 is unclear. Specifically, claim 26's "an extension of the channel region extending outwardly therefrom being formed" is non-idiomatic and unclear. Such should apparently read "wherein the channel region includes an outwardly

extending extension.” Claims 27-31, 33 and 35-43 depend on independent claim 26 and are thus similarly unclear. Claim 32, which depends on independent claim 25, is further unclear in reciting “an extension of the channel region extending outwardly therefrom being formed.” Such should apparently read, if only from a 35 U.S.C. §112, second paragraph, perspective, “wherein the channel region includes an outwardly extending extension.” Claim 37, whether depending on independent claim 25 or independent claim 26, is further unclear because “the longitudinal direction” lacks antecedent basis. Even assuming that “the longitudinal direction” is the channel length direction, claim 37, as it depends on independent claim 25, is incorrect because the gate extensions extending outwardly over the source-drain regions are parallel to the channel length direction. Claim 39, whether depending on independent claim 25 or independent claim 26, is further unclear because “the longitudinal direction” lacks antecedent basis. Even assuming that “the longitudinal direction” is the channel length direction, claim 39, as it depends on independent claim 25, is incorrect because the gate extensions extending outwardly over the source-drain regions are parallel to the channel length direction. Claim 43, whether depending on independent claim 25 or independent claim 26, is further unclear because “the longitudinal direction” lacks antecedent basis. Even assuming that “the longitudinal direction” is the channel length direction, claim 43, as it depends on independent claim 25, is incorrect because the gate extensions extending outwardly over the source-drain regions are parallel to the channel length direction. Independent claim 44 is indefinite. Specifically, claim 44 is unclear in reciting “comprising an [sic] extension extending outwardly from a part of at least one of the gate wiring layer and the source-drain wiring layer, the part being defined by two contact holes with which another contact hole is aligned” (i.e., it is

unclear how any part of the gate wiring layer or the source-drain wiring layer, let alone a part other than the extension of the gate wiring layer or the source-drain wiring layer, is "defined" by two or more contact holes). Claims 45-46 depend on independent claim 44 and are thus similarly indefinite. Claim 45 is also non-idiomatic and unclear in reciting "an extension of the gate electrode extending outwardly provided above the channel region being formed." Such should apparently read, if only from a 35 U.S.C. §112, second paragraph, perspective, "an extension of the gate electrode extending outwardly above the channel region" (although such is not described in the specification in any event, as explained above). Claim 46 is also non-idiomatic and unclear in reciting "an extension of the channel region extending outwardly therefrom being formed." Such should apparently read "wherein the channel region includes an outwardly extending extension."

Claims 25, 27, 28, 30, 31 and 37, at least insofar as understood, are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Mistry et al. (newly cited United States Patent 5,821,575). See Mistry et al's Figure 1C, for example, and note the gate electrode.

Claim 44, at least insofar as understood, is rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Koyama et al. (United States Patent 5,623,155 already of record). See Koyama et al's Figure 2, for example, and note the source-drain wiring layers 3-5.

Claims 26, 28, 30, 31 and 37, at least insofar as understood, are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Kerber et al. (United States Patent 5,623,155 already of record). See the entire patent, particularly Fig. 1. Note channel region 1, which includes an extension,

gate electrode 4 and gate extension 6.

The applicant's arguments with respect to Kerber et al. are moot in view of the new grounds of rejection and/or unpersuasive because they fail to acknowledge and address Kerber et al's channel and gate extensions.

Again, the only patentable subject matter in this application, if any, is that recited in the August 18, 2000 version of claims 4, 10-13 and 18-21. The examiner recommends that the applicant cancel problematic pending claims 25-46, and rewrite the August 18, 2000 version of canceled dependent claims 4, 10-13 and 18-21 in independent form.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, THIS ACTION IS MADE FINAL. See M.P.E.P. §706.07(a). Applicant is reminded of the extension of time policy set forth in 37 C.F.R. §1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. §1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Registered practitioners can telephone examiner Prenty at (703) 308-4939.

All other parties should telephone (703) 308-0956.

*Mark Prenty*  
Mark V. Prenty  
Primary Examiner